

Remarks

Claims 1-14, 16-18, 20, and 22-26 are pending in the application with claims 1, 12, 13, and 24-26 amended herein. Applicant requests entry of the claim amendments.

The Title is amended herein to better correspond with the subject matter set forth in the pending claims. The Related Application Data section is amended herein to clarify the priority claim. Applicant requests entry of the specification amendments.

Applicant believes that the claim amendments overcome the 35 USC 112 rejections, the only rejections, remaining in the application. As stated in the Office Action, the prior art rejections were withdrawn for resolution of 35 USC 112 issues. Since the previous claims were apparently not considered in view of the cited art, Applicant requests such consideration and presentation of a notice of allowance or new office action evaluating all requirements for patentability.

Claim 26 is objected to as being of improper dependent form. The dependency of claim 26 is corrected herein by amendment. Applicant requests withdrawal of the objection.

Claims 1-14, 16-18, 20, and 22-26 stand rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. Without admitting to the propriety of the rejection, Applicant herein amends claim 24 to delete the subject claim terms. Applicant requests reconsideration of claims 1 and 25.

Allegedly, the numerical ranges set forth in claims 1 and 25 for optical density fading and light exposure time do not possess a written description in the specification. The numerical range for optical density fading is amended to set forth less than 22.6%, as supported at least by the table on page 5 of the present specification and the text associated therewith. The numerical range for light exposure time is amended to set forth about 216 hours as supported by page 6, line 5 of the present specification.

Applicant notes that the table on page 5 compares the "Inventive Toner" with K3.1 prior art toner. The optical density fading obtained for the "Inventive Toner" is less than 22.6%, the optical density fading of K3.1. Page 6, lines 1-25 of the specification describes improvement in light fastness, generally, and

improvement in optical density fading, specifically, over K3.1 toner. A variety of options are disclosed for selection of colored pigments to provide "improved fade resistance" (line 23). Specific pigments are listed. Page 6, line 26 to page 7, line 29 describes in detail the selection of "fade resistant 'balancing' pigments" (page 6, line 28) with the recognition "that not all of these pigments are equally colorfast" (page 7, line 24) and that 2, 3, 4, or more pigments may be selected.

Applicant asserts that those of ordinary skill appreciate a description of numerous black toner particles exhibiting optical density fading less than that of K3.1 toner (see further discussion below regarding enablement). The specification provides one actual example, the "Inventive Toner," exhibiting optical density fading of 10.3% within the claimed range. Since the specification references improvement in optical density fading compared to K3.1 toner, instructs that the degree of color fastness varies among pigments, and describes numerous options for making black toner particles with improved fade resistance compared to K3.1 toner, Applicant asserts that the specification adequately supports amended claims 1 and 25. The claimed range does not overlap the optical density fading of K3.1 toner.

Amended claim 12 depends ultimately from amended claim 1 and sets forth optical density fading of less than 10.5%. As supported by MPEP 2163.05 (III), where the original specification describes a broad numerical range for a limitation, the specification may be found also to support a lesser included range, even when one or more of the endpoints of the lesser included range are not expressly identified in the specification. This is especially valid when specific examples exist within the lesser included range. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) also supports such a finding. A range of "between 35% and 60%" was found supported even though the specification only described a range of "25%-60%" and specific examples of "36%" and "50%". Since the specification supports optical density fading of less than 22.6%, Applicant asserts that it also supports optical density fading of less than 10.5%, encompassing the specific example of 10.3%.

Claims 1-14, 16-18, 20, and 22-26 stand rejected under 35 USC 112, first paragraph as lacking enablement in the specification. Page 3 of the Office Action alleges that the specification does not enable all toners, liquid and dry, having a

change in optical density as little as zero or other small values for all exposures of 200 hours or more. Applicant requests reconsideration.

Claims 1 and 25 are amended herein to limit the light exposure period to about 216 hours. Consequently, the enablement of black toner particles exhibiting optical density fading of less than 22.6% is much more straightforward with the limitation to a definite exposure time. The Office Action expresses concern over the extent of experimentation to obtain the previously claimed particles. However, at least page 6, line 26 to page 7, line 29 of the present specification enumerate specific light fast carbon black and fade resistant "balancing" pigments that may be combined and evaluated for fade resistance. Blue, violet, yellow, orange, red, brown, green, etc. light fast pigments are named. Page 7, lines 8-14 even describe the methodology for evaluation. Page 7, lines 24-29 describe considerations to remember in selecting pigments. Page 2, lines 8-18 describe additional considerations.

Even though the specification only names one actual composition for a black toner particle exhibiting optical density fading less than K3.1 toner, Applicant asserts that the specification enables additional toner particles within the claimed range. The specification names specific components, lists properties of the components to consider, and describes a testing methodology for evaluating selected combinations. Although some experimentation may be involved in producing additional particles exhibiting optical density fading less than 22.6%, the specification includes adequate guidance to those of ordinary skill. The same holds true for optical density fading less than 10.5%.

The Office Action expresses concern over enabling zero or very low values for optical density fading. Applicant notes that, for the "Inventive Toner," one of the light fastness indicators, color neutrality, had Chroma values that were "practically unchanged" (page 6, line 14) after 216 hours of light exposure. Since one of the light fastness indicators in the actual example was very low, it is conceivable that other values, such as optical density fading, might be similarly low in other formulations.

The Federal Circuit has held "that a patent specification complies with the statute even if a 'reasonable' amount of routine experimentation is required in order to practice a claimed invention, but that such experimentation must not be

'undue.'" Enzo Biochem, Inc. v. Calgene, Inc., 52 USPQ 2d 1129, 1135-36 (Fed. Cir. 1999). Several factors may be considered to determine whether a disclosure would require undue experimentation, although all factors need not be reviewed. Id. The factors include: "(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims." Id.

The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. MPEP § 2164.01; In re Angstadt, 537 F.2d 498, 504, 90 USPQ 214, 219 (CCPA 1976). Given the abundance of information available to those of ordinary skill, Applicant asserts that review by those of ordinary skill of the collective information will minimize any experimentation such that only a reasonable amount of experimentation is necessary. The fact that experimentation may be complex does not necessarily make it undue, if the art typically engages in such experimentation. MPEP § 2164.01; In re Certain Limited-Charge Cell Culture Microcarriers, 221 USPQ 1165, 1174 (Int'l Trade Comm'n 1983), aff 'd. sub nom., Massachusetts Institute of Technology v. A.B. Fortia, 774 F.2d 1104, 227 USPQ 428 (Fed. Cir. 1985).

At least for such reasons, Applicant asserts that claims 1 and 25 are enabled and requests withdrawal of the rejection in the next Office Action.

Claim 13 depending from claim 1 sets forth that the image exhibits a change in the Chroma value of less than 3.45 when exposed to the light for the enumerated period. The amendment to claim 13 is supported at least by the table on page 5 and the text associated therewith in the present specification. The table describes a change in the Chroma value for K3.1 toner of 3.45 and a change in the Chroma value for the "Invented Toner" of 0.01. Indeed, the specification categorizes the Chroma value as "practically unchanged." Review of the specification text referenced above in the discussion regarding written description and enablement of optical density fading reveals that a written description and enablement of the claim 13 Chroma limitation also exists in the specification.

Claim 24 is amended herein to limit the composition to black liquid toner and specify the polymer and two balancing pigments. The amendments are supported at least by original claims 7, 10, and 16.

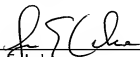
Claim 26 depending from claim 24 is amended herein to specify that the black liquid toner exhibits a Chroma value practically unchanged when exposed to light having a spectrum of wavelengths from about 270 to about 800 nanometers for a period of about 216 hours. The amendment to claim 26 is supported at least by the table on page 5 and the text associated therewith in the present specification.

Applicants respectfully request allowance of all pending claims.

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,
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By:



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